

Abstract of the Disclosure

A pressure injection syringe (10) with an actuator (100) that includes a plunger (102) for pressurizing viscous fluid material within a chamber (14). The plunger distal tip (112) includes a high pressure seal (110) defined by a seal member (118) within a seal seat (116). The high pressure seal (110) is viscoselective to permit air passage therepast for aspiration, and to prohibit viscous material passage therepast during actuation of the actuator wherein high pressure is applied to the material within the chamber (14). The viscoselective seal (110) may be defined for example by small axial openings (130) in the seal seat (116) that permit aspiration of air therepast during initial plunger insertion into the chamber, but fluid escape is prohibited by the seal member (118) when the seal member is pressed firmly against a collar (126) of the plunger (102) proximally adjacent the seal seat by initial engagement of the seal member with the viscous material, thus completely sealing the chamber (14) at the proximal end thereof.